

SEQUENCE LISTING

<110> Falco, Carl
Famodu, Layo O.

<120> Tetrahydrofolate Metabolism Enzymes

<130> BB-1179

<140>

<141>

<150> 60/092,869

<151> July 15, 1998

<160> 8

<170> Microsoft Office 97

<210> 1

<211> 542

<212> DNA

<213> Zea mays

<220>

<221> unsure

<222> (363)

<400> 1

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cccaagacgg aggagggggg cgagaacctg ttcgagcgga tggaccgcat ggtggcgcac 180
ggcccctcct tctgcgacat cacctggggc gccgggggat ccaccgctga ccttaccctc 240
gaaatcgcca accgtatgca gaacatgggtg tgtgtggaaa ccatgatgca cctgacatgt 300
acaaacatgc cagtagagaa gattgaccat gccttggaaa ccatcaaatt caatgggatt 360
canaatgttt tggccctcag aggggattct ccacatgggc aagacaaatt tgtgcaagtt 420
gaaggcgcat ttgcttggtg tcttgatttg gtgacacata ttatagccaa gtacggtgaa 480
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<210> 2

<211> 164

<212> PRT

<213> Zea mays

<220>

<221> UNSURE

<222> (105)

<400> 2

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Ala Phe Ser Phe Glu Tyr Phe Pro Pro Lys Thr Glu Glu Gly Val Glu
      20             25             30
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Asn Leu Phe Glu Arg Met Asp Arg Met Val Ala His Gly Pro Ser Phe
      35             40             45
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Cys Asp Ile Thr Trp Gly Ala Gly Gly Ser Thr Ala Asp Leu Thr Leu
50 55 60

Glu Ile Ala Asn Arg Met Gln Asn Met Val Cys Val Glu Thr Met Met
65 70 75 80

His Leu Thr Cys Thr Asn Met Pro Val Glu Lys Ile Asp His Ala Leu
85 90 95

Glu Thr Ile Lys Ser Asn Gly Ile Xaa Asn Val Leu Ala Leu Arg Gly
100 105 110

Asp Ser Pro His Gly Gln Asp Lys Phe Val Gln Val Glu Gly Gly Phe
115 120 125

Ala Cys Ala Leu Asp Leu Val Thr His Ile Ile Ala Lys Tyr Gly Glu
130 135 140

Leu Phe Trp His Thr Val Thr Gly Tyr Gln Lys His Thr Leu Ser Asp
145 150 155 160

Thr Cys Glu Gly

<210> 3
<211> 591
<212> DNA
<213> Oryza sativa

<220>
<221> unsure
<222> (535)

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<222> (591)

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caagactgag gatgggggtg acaatctgtt tgagaggatg gaccgcatgg tgggtgcacaa 180
ccctcgtgtt tgcgacatca cttgggggtgc tggagggaca acggctgac ttacattgga 240
aattgccaac aagatgcaga acattgtctg tgtggagacc atgatgcacc tcacctgcac 300
caacatgcct gttgagaaga ttgaccatgc tctccacacc atcaagtcca atggcctcca 360

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aaatgtgctt gcacttcgag gtgatccacc gcatggtcag gacaaattcg tccagtcgaa 420
ggcgggtttcc tgtgcacgcg acttggtgca acatatcaga ctaaatatgg tgacacttgg 480
ataagtccctg gtatcagagc acaccggatg tatagaatga tggttggcac acagnggtac 540
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<210> 4
 <211> 408
 <212> PRT
 <213> *Oryza sativa*

<400> 4
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 Lys Phe Val Asn Asp Cys Arg Gln Ile Gly Ile Thr Cys Pro Ile Val
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 Pro Gly Ile Met Pro Ile Asn Asn Tyr Lys Gly Phe Ile Arg Met Thr
 35 40 45
 Gly Phe Cys Lys Thr Lys Ile Pro Ala Asp Ile Met Ala Ala Leu Glu
 50 55 60
 Pro Ile Lys Asp Asn Glu Glu Ala Val Lys Ala Tyr Gly Ile His Leu
 65 70 75 80
 Gly Thr Glu Met Cys Lys Lys Ile Leu Ala His Gly Ile Lys Thr Leu
 85 90 95
 His Leu Tyr Thr Leu Asn Met Glu Lys Ser Ala Leu Ala Ile Leu Met
 100 105 110
 Asn Leu Gly Leu Ile Glu Glu Ser Lys Val Ser Arg Ser Leu Pro Trp
 115 120 125
 Arg Arg Pro Ala Asn Val Phe Arg Val Lys Glu Asp Val Arg Pro Ile
 130 135 140
 Phe Trp Ala Asn Arg Pro Lys Ser Tyr Ile Ser Arg Thr Ile Gly Trp
 145 150 155 160
 Asp Gln Tyr Pro His Gly Arg Trp Gly Asp Ser Cys Asn Pro Ser Tyr
 165 170 175
 Gly Ala Leu Ser Asp Tyr Gln Phe Met Arg Pro Arg Ala Arg Asp Lys
 180 185 190
 Lys Leu Val Glu Glu Trp Ala Val Pro Leu Lys Ser Val Glu Asp Ile
 195 200 205
 Tyr Glu Arg Phe Arg Leu Tyr Cys Leu Gly Lys Leu Arg Ser Asn Pro
 210 215 220
 Trp Ser Glu Leu Asp Gly Leu Gln Pro Glu Thr Lys Ile Ile Asn Glu
 225 230 235 240
 Gln Leu Glu Lys Ile Asn Thr Lys Gly Phe Leu Thr Ile Asn Ser Gln
 245 250 255

Pro Ala Val Asn Gly Glu Lys Ser Asp Ser Pro Thr Val Gly Trp Gly
 260 265 270

Gly Pro Gly Gly Tyr Val Tyr Gln Lys Ala Tyr Val Glu Phe Phe Cys
 275 280 285

Ser Lys Glu Lys Leu Asp Ala Leu Val Asp Lys Cys Lys Asp Arg Thr
 290 295 300

Ser Leu Thr Tyr Met Ala Val Asn Lys Asp Gly Ser Trp Lys Ser Asn
 305 310 315 320

Val Gly Gln Thr Asp Val Asn Ala Val Thr Trp Gly Val Phe Pro Ala
 325 330 335

Lys Glu Ile Ile Gln Pro Thr Ile Val Asp Pro Val Ser Phe Asn Val
 340 345 350

Trp Lys Asp Glu Ala Phe Glu Ile Trp Ser Arg Gly Trp Ala Ser Leu
 355 360 365

Tyr Pro Glu Asp Glu Ala Ser Arg Lys Leu Val Glu Glu Val Gly Gly
 370 375 380

Ser His Phe Leu Val Ser Leu Val Asp Asn Asp Tyr Ile Asn Gly Asp
 385 390 395 400

Leu Phe Ala Val Phe Ala Asp Phe
 405

<210> 5
 <211> 558
 <212> DNA
 <213> Glycine max

<400> 5
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 gccaaattgg aataacgtgt cctattgtac ctggaattat gccattaat aattacaagg 120
 gctttatccg catgactggg ttttgcaaaa caaagatacc agctgacatt atggctgctt 180
 tagagcctat caaggacaat gaagaagctg tcaaggctta tgggaattcac ctgggaactg 240
 aaatgtgcaa aaagatttta gctcatggaa ttaagacatt gcatctttat acactaaata 300
 tggagaaatc tgcattggca atactaatga accttggcct aattgaagag tccaaagttt 360
 ctaggtcctt accttggaga cgccctgcaa atgttttccg tgttaaagaa gatgtccgtc 420
 caatcttttg ggcaaactga ccaaaaagct acatatcaag gaccatagga tgggatcaat 480
 acccacatgg gcgttggggt gattcctgta atccatcata tgggtgcatta tctgattatc 540
 agttcatgcg gccacgtg 558

<210> 6
 <211> 408
 <212> PRT
 <213> Glycine max

<400> 6
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Lys Phe Val Asn Asp Cys Arg Gln Ile Gly Ile Thr Cys Pro Ile Val
 20 25 30

Pro Gly Ile Met Pro Ile Asn Asn Tyr Lys Gly Phe Ile Arg Met Thr
 35 40 45
 Gly Phe Cys Lys Thr Lys Ile Pro Ala Asp Ile Met Ala Ala Leu Glu
 50 55 60
 Pro Ile Lys Asp Asn Glu Glu Ala Val Lys Ala Tyr Gly Ile His Leu
 65 70 75 80
 Gly Thr Glu Met Cys Lys Lys Ile Leu Ala His Gly Ile Lys Thr Leu
 85 90 95
 His Leu Tyr Thr Leu Asn Met Glu Lys Ser Ala Leu Ala Ile Leu Met
 100 105 110
 Asn Leu Gly Leu Ile Glu Glu Ser Lys Val Ser Arg Ser Leu Pro Trp
 115 120 125
 Arg Arg Pro Ala Asn Val Phe Arg Val Lys Glu Asp Val Arg Pro Ile
 130 135 140
 Phe Trp Ala Asn Arg Pro Lys Ser Tyr Ile Ser Arg Thr Ile Gly Trp
 145 150 155 160
 Asp Gln Tyr Pro His Gly Arg Trp Gly Asp Ser Cys Asn Pro Ser Tyr
 165 170 175
 Gly Ala Leu Ser Asp Tyr Gln Phe Met Arg Pro Arg Ala Arg Asp Lys
 180 185 190
 Lys Leu Val Glu Glu Trp Ala Val Pro Leu Lys Ser Val Glu Asp Ile
 195 200 205
 Tyr Glu Arg Phe Arg Leu Tyr Cys Leu Gly Lys Leu Arg Ser Asn Pro
 210 215 220
 Trp Ser Glu Leu Asp Gly Leu Gln Pro Glu Thr Lys Ile Ile Asn Glu
 225 230 235 240
 Gln Leu Glu Lys Ile Asn Thr Lys Gly Phe Leu Thr Ile Asn Ser Gln
 245 250 255
 Pro Ala Val Asn Gly Glu Lys Ser Asp Ser Pro Thr Val Gly Trp Gly
 260 265 270
 Gly Pro Gly Gly Tyr Val Tyr Gln Lys Ala Tyr Val Glu Phe Phe Cys
 275 280 285
 Ser Lys Glu Lys Leu Asp Ala Leu Val Asp Lys Cys Lys Asp Arg Thr
 290 295 300
 Ser Leu Thr Tyr Met Ala Val Asn Lys Asp Gly Ser Trp Lys Ser Asn
 305 310 315 320
 Val Gly Gln Thr Asp Val Asn Ala Val Thr Trp Gly Val Phe Pro Ala
 325 330 335
 Lys Glu Ile Ile Gln Pro Thr Ile Val Asp Pro Val Ser Phe Asn Val
 340 345 350

Trp Lys Asp Glu Ala Phe Glu Ile Trp Ser Arg Gly Trp Ala Ser Leu
355 360 365

Tyr Pro Glu Asp Glu Ala Ser Arg Lys Leu Val Glu Glu Val Gly Gly
370 375 380

Ser His Phe Leu Val Ser Leu Val Asp Asn Asp Tyr Ile Asn Gly Asp
385 390 395 400

Leu Phe Ala Val Phe Ala Asp Phe
405

<210> 7
<211> 451
<212> DNA
<213> Triticum aestivum

<220>
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atcttgctta cttgaagaga aaggttgatg ctggtgctga cggtataatc acccancctt 180
tctatgatac cgatatcttt ctcaagtttg tgaacgactg ccgtcagatt ggtataacct 240
gccctatcgt tcttggcata atgccaataa ataactaaa aggatttgtg cgcattgactg 300
gattctgcaa aactaaaatt ccacctgaga ttactgctgc cttgggntcc tactaaagac 360

aatgaggagg ntgtgaaaag catatgggat ccaccctggt actgaagatg ttcaaaaaaa 420
 attttnggct agtgggataa anacnttgca c 451

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 <212> PRT
 <213> Triticum aestivum

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 <222> (25)..(26)

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 Gly Tyr Pro Glu Ala His Pro Glu Xaa Xaa Ala Tyr Xaa Lys Xaa Leu
 20 25 30
 Ala Tyr Leu Lys Arg Lys Val Asp Ala Gly Ala Asp Val Ile Ile Thr
 35 40 45
 Xaa Leu Phe Tyr Asp Thr Asp Ile Phe Leu Lys Phe Val Asn Asp Cys
 50 55 60
 Arg Gln Ile Gly Ile Thr Cys Pro Ile Val Pro Gly Ile Met Pro Ile
 65 70 75 80
 Asn Asn Tyr Lys Gly Phe Val Arg Met Thr Gly Phe Cys Lys Thr Lys
 85 90 95
 Ile Pro Pro Glu Ile
 100